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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305165F: NAVSTAR GPS (Space)							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	86.648	51.197	34.471	0.000	34.471	17.953	15.016	0.000	0.000	Continuing	Continuing
673030: NAVSTAR GPS (Space & Control)	86.648	51.197	34.471	0.000	34.471	17.953	15.016	0.000	0.000	0.000	2,033.521

A. Mission Description and Budget Item Justification

This Program Element (PE) funds Research and Development (R&D) for the Navstar Global Positioning System (GPS) Space and Control segments for GPS Block II satellites. It includes, but not limited to: training simulators, Integrated Logistics Support (ILS) products, ground control segment development, procurement, and operation, sustaining engineering, space and ground segments upgrades, and R&D efforts to support GPS Block II system deployment including efforts to provide anti-jam capability through increased Military(M)-Code signal power.

The Operational Control Segment (OCS) will deliver control segment capabilities to support Block IIF satellites as well as the existing constellation of Block IIA/IIR/IIR-M satellites.

This program is in Budget Activity 7 - Operational Systems Development because it supports operational systems.

B. Program Change Summary (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	90.711	52.039	0.000	0.000	0.000
Current President's Budget	86.648	51.197	34.471	0.000	34.471
Total Adjustments	-4.063	-0.842	34.471	0.000	34.471
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.063	0.000			
• SBIR/STTR Transfer	-2.000	0.000			
• Other Adjustments	0.000	-0.842	34.471	0.000	34.471

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<p><u>Change Summary Explanation</u></p> <p>-\$2.063M in FY09 reprogrammed for higher DoD priorities. -\$0.842M in FY10 for FFRDC. The FY2010 President's Budget submittal did not reflect FY2011 through FY2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305165F: <i>NAVSTAR GPS (Space)</i>				PROJECT 673030: <i>NAVSTAR GPS (Space & Control)</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
673030: <i>NAVSTAR GPS (Space & Control)</i>	86.648	51.197	34.471	0.000	34.471	17.953	15.016	0.000	0.000	0.000	2,033.521
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification <p>This Program Element (PE) funds Research and Development (R&D) for the Navstar Global Positioning System (GPS) Space and Control segments for GPS Block II satellites. It includes, but not limited to: training simulators, Integrated Logistics Support (ILS) products, ground control segment development, procurement, and operation, sustaining engineering, space and ground segments upgrades, and R&D efforts to support GPS Block II system deployment including efforts to provide anti-jam capability through increased Military(M)-Code signal power.</p> <p>The Operational Control Segment (OCS) will deliver control segment capabilities to support Block IIF satellites as well as the existing constellation of Block IIA/IIR/IIR-M satellites.</p> <p>This program is in Budget Activity 7 - Operational Systems Development because it supports operational systems.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: Development of GPS Block II Operational Control System (OCS).						86.648	51.197	34.471	0.000	34.471	
<i>FY 2009 Accomplishments:</i> In FY 2009: Develop and deliver control segment capabilities to support Block IIF satellites as well as the existing constellation of Block IIA/IIR/IIR-M satellites.											
<i>FY 2010 Plans:</i> In FY 2010: Develop and deliver Selective Availability Anti-Spoofing Module (SAASM) capability for Block IIR/IIR-M/IIF satellites.											

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B. Accomplishments/Planned Program (\$ in Millions)													
									FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: In FY 2011: Completion of Operational Control Segment development efforts; transition to sustainment operations.													
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.													
Accomplishments/Planned Programs Subtotals									86.648	51.197	34.471	0.000	34.471
C. Other Program Funding Summary (\$ in Millions)													
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost		
• PE Not Provided (17731):	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Related Activities:													
• PE 0305165F: GPS Space & Control (O&M)	73.278	78.008	79.753	0.000	79.753	78.761	79.859	81.576	84.293	0.000	0.000		
• PE 0305165F (1): GPS Space & Control (MPAF)	127.862	52.983	64.609	0.000	64.609	69.220	63.785	83.327	10.914	0.000	0.000		
• PE 0305165F (2): GPS Space & Control (OPAF)	14.166	7.569	7.736	0.000	7.736	7.776	7.905	0.395	0.401	0.000	0.000		
D. Acquisition Strategy													
GPS OCS upgrade was competitively awarded to a single contractor (Lockheed Martin) in July 1995. Block IIF satellite and IIF ground systems development contract was competitively awarded to a single contractor (Boeing) in April 1996. The Single Prime Initiative (SPI) consolidated these efforts and was added to the Boeing IIF contract (with Lockheed Martin as a subcontractor) on 1 Oct 1999. GPS Modernization efforts for the Block IIR were awarded sole source to Lockheed Martin under a new contract in August 2000. Modernization efforts for Block IIF were added to the existing contract in 2002 with Boeing as Engineering Change Proposals (ECPs).													

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E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305165F: <i>NAVSTAR GPS (Space)</i>				PROJECT 673030: <i>NAVSTAR GPS (Space & Control)</i>					
 Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OCS Development & IIF Modernization	C/Various	Boeing Seal Beach, CA	1,414.322	37.677	Nov 2009	18.484	Nov 2010	0.000		18.484	Continuing	Continuing	1,944.179
IIF Development	C/Various	Boeing Seal Beach, CA	76.272	0.000		0.000		0.000		0.000	0.000	76.272	77.600
Control Segment Support	MIPR	Various Various	24.042	5.766	Nov 2009	9.841	Nov 2010	0.000		9.841	Continuing	Continuing	Continuing
Completed GPS Development Efforts	Various/ Various	Various Various	165.983	0.000		0.000		0.000		0.000	0.000	165.983	0.000
Subtotal			1,680.619	43.443		28.325		0.000		28.325			
Remarks													
 Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/ Support	FFRDC	Various Various	68.437	4.370	Nov 2009	3.720	Nov 2010	0.000		3.720	Continuing	Continuing	Continuing
Completed GPS Support Efforts	Various/ Various	Various Various	46.480	0.000		0.000		0.000		0.000	0.000	46.480	0.000
Subtotal			114.917	4.370		3.720		0.000		3.720			
Remarks													

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 Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Completed GPS T&E Efforts	Various/ Various	Various Various	4.588	0.000		0.000		0.000		0.000	0.000	4.588	0.000
Subtotal			4.588	0.000		0.000		0.000		0.000	0.000	4.588	0.000
Remarks													
 Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	FFRDC	Aerospace El Segundo, CA	59.538	3.384	Nov 2009	2.426	Nov 2010	0.000		2.426	Continuing	Continuing	Continuing
Subtotal			59.538	3.384		2.426		0.000		2.426			
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1,859.662	51.197		34.471		0.000		34.471			
Remarks Total Prior Years Cost may include only FY 2009 data.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

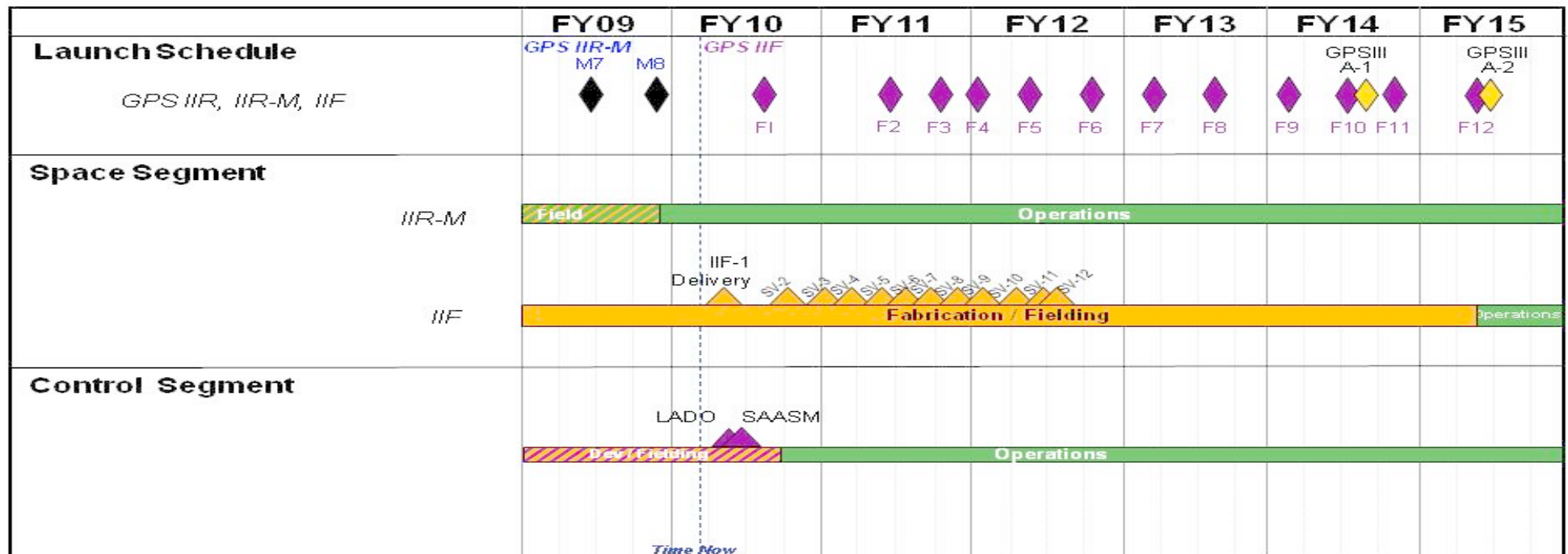
3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0305165F: NAVSTAR GPS (Space)

PROJECT

673030: NAVSTAR GPS (Space & Control)



LADO – Launch, Anomaly & Disposal Operations
SAASM – Selective Availability Anti-Spoofing Module
AFL – Available for Launch

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305165F: <i>NAVSTAR GPS (Space)</i>	PROJECT 673030: <i>NAVSTAR GPS (Space & Control)</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Selective Availability Anti-Spoofing Module (SAASM) Complete	1	2009	1	2009
GPS IIF Development Complete	4	2009	4	2009
Launch, Anomaly & Disposal Operations (LADO) Release 2 Complete	1	2010	1	2010
SAASM Capability Complete	2	2010	2	2010
Certification for SAASM Multi-Service Operational Test & Evaluation	1	2011	1	2011

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